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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,903	09/22/2003	Steven T. Fink	071469-0305780	7379

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EXAMINER

TRAN, THUY V

ART UNIT PAPER NUMBER

2821

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

10/664,903

Applicant(s)

FINK, STEVEN T.

Examiner

Thuy V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment submitted on 02/16/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14, 16-20, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17 is/are allowed.
- 6) ☒ Claim(s) 1, 6-9, 11, 12, 16, 18, 19, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 2-5, 10, 13, 14 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the Applicant's amendment submitted on February 16th, 2005. In virtue of this amendment:

- Claims 15 and 21 are canceled;
- Claims 22 and 23 are newly added; and thus
- Claims 1-14, 16-20, and 22-23 are now presented in the instant application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6-7, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Blalock (U.S. Patent No. 5,647,913).

With respect to claim 1, Blalock discloses, in Figs. 1-2, an assembly configured to be coupled to components of a plasma reactor; the assembly comprises (1) an electrostatic shield [26] (see Fig. 1; col. 4, line 25-27), and (2) a process tube [12] (see Fig. 1), wherein the electrostatic shield [26] is coupled to the process tube [12] (via coils [18]; see Figs. 1-2) such that the electrostatic shield [26] resides around the process tube and, at times of process tube removal from the plasma reactor, the electrostatic shield is extracted with the process tube (since the electrostatic shield [26], the process tube [12], and the coil [18] are packed altogether; see Figs. 1-2).

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With respect to claim 6, Fig. 1 of Blalock appears to show that the electrostatic shield [26] is attached to the process tube [12].

With respect to claim 22, Fig. 1 of Blalock appears to show that the process tube [12] is coupled to the electrostatic shield [26] such that the process tube [12] positions the electrostatic shield [26] within the plasma reactor (or housing [27]).

With respect to claim 7, Blalock discloses, in Fig. 3, an assembly configured to be coupled to components of a plasma reactor; the assembly comprises (1) a process tube [12a], and (2) an electrostatic shield [26] patterned directly on the process tube (see col. 5, lines 17-18).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-9 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blalock (U.S. Patent No. 5,647,913).

With respect to claims 8-9 and 18-19, Blalock discloses all of the claimed subject matter, as expressly recited in claim 7, except that the electrostatic shield be patterned directly on the process tube using at least one of sputtering, evaporation or metal vapor deposition and that the electrostatic shield be patterned on the process tube using a plating process which increases a thickness of the electrostatic shield. However, this difference is not of patentable merits since all the stated techniques have been commonly employed in the art to deposit a material onto or dislodge it from a surface. The increase of the thickness of the electrostatic shield occurs

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naturally as an effect of the deposition or sputtering. Furthermore, all the techniques would provide the same result. Therefore, to employ either one of the stated techniques for patterning the electrostatic shield on the process tube would have been deemed obvious to a person skilled in the art.

5. Claims 11-12, 16, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blalock (U.S. Patent no. 5,647,913) in view of Ishii et al. (U.S. Patent No. 5,571,366).

With respect to claim 11 and 12, Blalock discloses all of the claimed subject matter, as expressly recited in claim 1, except that the electrostatic shield be made of a flex-print material, which is a polyimide film.

Ishii et al. discloses, in Fig. 15, a plasma processing apparatus comprising an electrostatic shield [91], which includes two insulating films [93a, 93b] made of polyimide film (see col. 13, lines 17-24).

To employ a flex-print material such as polyimide film to make the electrostatic shield of Blalock to prevent an electrostatic force of the RF from acting on the chamber would have been obvious to one of ordinary skills in the art at the time of the invention since such the use of such polyimide film material for making the electrostatic shield for the stated purpose has been well known in the art as evidenced by the teachings of Ishii et al. (see col. 13, lines 1-2).

With respect to claim 16, the combination of Blalock and Ishii et al. disclose that the electrostatic shield [26] and the process tube [12a] are bonded together (see Fig. 3 of Blalock).

With respect to claim 23, the combination of Blalock and Ishii et al. disclose that the process tube [12a] is coupled to the electrostatic shield [26] such that the process tube [12a]

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positions the electrostatic shield [26] within the plasma reactor (or housing [27]) (see Fig. 3 of Blalock).

Allowable Subject Matter

6. Claim 17 is allowed.

7. Claims 2-5, 10, 13-14, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Prior art fails to disclose or fairly suggest:

- An assembly configured to be coupled to components of a plasma reactor further comprising at least one spira-shield electrically coupled to the electrostatic shield, in combination with the remaining claimed limitations as called for in claims 2, 10, 14 and 20;
- An assembly configured to be coupled to components of a plasma reactor further comprising at least one insulating spacer located between the electrostatic shield and an end of the process tube, in combination with the remaining claimed limitations as called for in claim 3 (claims 4-5 would be allowable since they are dependent on claim 2);
- An assembly configured to be coupled to components of a plasma reactor wherein the electrostatic shield is implemented between two sheets of the flex-print material except on a top and bottom to allow for contacts with a spira-shield, in combination with the remaining claimed limitations as called for in claim 13;

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- A method of fabricating an assembly including a housing, a process tube, and an electrostatic shield comprising electrically coupling the electrostatic shield to the housing through a spira-shield, in combination with the remaining claimed limitations as called for in independent claim 17.

Remarks and conclusion

8. Upon reviewing the assignment data provided in the record of the instant application, the references to Johnson et al. (Pub. No.: US 2002/0125223 A1), Johnson (US Patent No. 6,758,948), and Johnson (US Patent No. 6,511,577) that were cited in the previous Office Action are not valid for the rejections. Therefore, the rejections that were made in the previous Office Action with regard to these references are hereby withdrawn.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

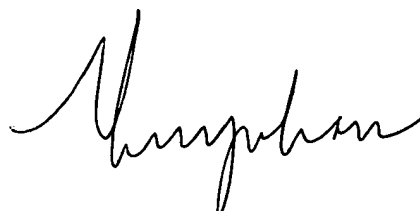
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05/02/2005



THUY V. TRAN
PRIMARY EXAMINER